AMENDMENTS

Claim amendments:

 (Original) A method for forming a semiconductor device, comprising: providing a substrate comprising a layer of silicon germanium having formed thereon a layer of strained silicon;

implanting a species to create point defects in the silicon germanium layer at a source region of an NMOS device to extend the duration of a transient region of n-type dopant diffusivity in the silicon germanium of the source region;

implanting n-type dopant into the silicon germanium layer to form source and drain regions of the NMOS device; and

annealing to activate the n-type dopant in the source and drain regions of the NMOS device, wherein said point defects retard n-type dopant diffusion during said activation.

- 2. (Original) The method claimed in claim 1, wherein creating said point defects is performed prior to implanting shallow source and drain extensions of the NMOS device.
- 3. (Original) The method claimed in claim 1, wherein creating said point defects is performed subsequent to implanting shallow source and drain extensions of the NMOS device and prior to forming a spacer around a gate of the NMOS device.
- 4. (Original) The method claimed in claim 1, wherein creating said point defects is performed subsequent to forming a spacer around a gate of the NMOS device and prior to implanting deep source and drain regions of the NMOS device.

- 5. (Canceled)
- 6. (Original) The method claimed in claim 1, wherein creating said point defects is performed subsequent to implanting deep source and drain regions of the NMOS device.
- 7. (Original) The method claimed in claim 1, wherein creating said point defects is performed prior to implanting said n-type dopant.
- 8. (Original) The method claimed in claim 1, wherein creating said point defects is performed after implanting said n-type dopant.
- 9. (Original) The method claimed in claim 1, wherein creating said point defects comprises selectively masking the substrate to protect an active region of a PMOS device on the substrate and to protect a drain region of the NMOS device.
- 10. (Original) The method claimed in claim 1, wherein said species is also implanted into the silicon germanium layer in a drain region of the NMOS device to extend the duration of a transient region of n-type dopant diffusivity in the silicon germanium of the drain region.
- 11. (Original) The method claimed in claim 10, wherein creating said point defects comprises selectively masking the substrate to protect an active region of a PMOS device on the substrate.
- 12. (Original) The method claimed in claim 1, wherein the species implanted to create point defects is germanium.

- 13. (Original) The method claimed in claim 1, wherein the species implanted to create point defects is silicon.
- 14. (Original) The method claimed in claim 1, wherein the species implanted to create point defects is an inert element.
- 15. (Original) The method claimed in claim 1, wherein the silicon germanium layer is formed on a silicon substrate.
- 16. (Original) The method claimed in claim 1, wherein the silicon germanium layer is formed on a dielectric layer.
- 17. (Original) The method claimed in claim 1, wherein said annealing is performed for a time that is less than the duration of the transient region of n-type dopant diffusivity in the silicon germanium of the source region having said point defects created therein.
- 18. (Original) The method claimed in claim 1, wherein said annealing comprises performing multiple anneals, each of said multiple anneals being performed for a time that is less than the duration of the transient region of n-type dopant diffusivity in the silicon germanium of the source region having said point defects created therein.
- 19. (Original) The method claimed in claim 1, wherein the NMOS device includes strained silicon of the strained silicon layer in a channel region.
- 20. (Original) A method of forming an NMOS device, comprising: forming a structure comprising n-type source and drain regions implanted in a silicon germanium layer of a substrate, wherein the silicon germanium of at least

the source region contains point defects created by implantation of a species other than an n-type dopant; and

annealing to activate the source and drain regions, wherein said point defects retard n-type dopant diffusion during said activation.